

### Amendments to the Claims

**1-16. (Cancelled)**

**17. (Currently amended)** Apparatus for analysing a polynucleotide, the apparatus comprising: a support having an impermeable surface; porous material attached to the impermeable surface; and an array of oligonucleotides with predetermined sequences attached to the porous material, wherein the array comprises at least two defined cells, the sequence of the oligonucleotides of a first cell is different from the sequence of the oligonucleotides of a second cell, ~~and~~ the oligonucleotides are shorter than the polynucleotide, and the oligonucleotides are synthesized *in situ*.

**18. (Previously presented)** Apparatus of claim 17, wherein the porous material is a microporous material.

**19. (Previously presented)** Apparatus of claim 17, wherein the support is made of a silicon oxide.

**20. (Previously presented)** Apparatus of claim 19, wherein the support is made of glass.

**21. (Previously presented)** Apparatus of claim 17, comprising between  $72$  and  $1.1 \times 10^{12}$  cells.

**22. (Currently amended)** Apparatus of claim 17, wherein each cell holds at least  $3 \times 10^{-12}$  ~~mmol~~  $\mu\text{mol}$  of oligonucleotide.

**23. (Previously presented)** Apparatus of claim 17, wherein the oligonucleotides are covalently attached to the porous material.

**24. (Previously presented)** Apparatus of claim 23, wherein the oligonucleotides are covalently attached by a terminal nucleotide.

**25. (Cancelled)**

**26. (Previously presented)** Apparatus of claim 17, wherein the apparatus is manufactured using a computer-controlled device.

**27. (Previously presented)** Apparatus of claim 26, wherein the computer-controlled device is a printing device.

**28-85. (Cancelled)**

**86. (Currently amended)** Apparatus for analysing a polynucleotide, the apparatus comprising: a support having an impermeable surface; porous material attached to the impermeable surface; and an array of oligonucleotides with predetermined sequences attached to the porous material, wherein the array comprises at least two defined cells, the sequence of the oligonucleotides of a first cell is different from the sequence of the oligonucleotides of a second cell, ~~and~~ the oligonucleotides are shorter than the polynucleotide, wherein the oligonucleotides are covalently attached to the porous material by a terminal nucleotide.

**87-89. (Cancelled)**

**90. (New)** Apparatus of claim 86, wherein the porous material is a microporous material.

**91. (New)** Apparatus of claim 86, wherein the support is made of a silicon oxide.

**92. (New)** Apparatus of claim 91, wherein the support is made of glass.

**93. (New)** Apparatus of claim 86, comprising between 72 and  $1.1 \times 10^{12}$  cells.

**94. (New)** Apparatus of claim 86, wherein each cell holds at least  $3 \times 10^{-12}$   $\mu\text{mol}$  of oligonucleotide.

**95. (New)** Apparatus of claim 86, wherein the apparatus is manufactured using a computer-controlled device.

**96. (New)** Apparatus of claim 95, wherein the computer-controlled device is a printing device.